

# Chehalis River Basin Flood Authority

*Reducing Flood Damage and  
Restoring Aquatic Species*

Town of Bucoda  
November 12, 2024

# 2007 Storm

- \$938M Basin-wide damage, \$300M lost economic activity (WA).



**Exit 77 (I-5) in Chehalis**  
STEVE RINGMAN / SEATTLE TIMES



**City of Centralia**  
STEVE RINGMAN / SEATTLE TIMES



↑  
← **Photos Source:** LEWIS COUNTY,  
DIVISION OF EMERGENCY  
MANAGEMENT

2 of 22



**State Route 6,  
West of Adna**  
MIKE  
SALSBURY /  
AP

# Today's Presentation



**CHEHALIS  
RIVER BASIN**  
FLOOD CONTROL  
ZONE DISTRICT

- Describe the “Flood Authority”
  - #1 -- Local Projects
  - #2 -- Flood Warning System
- Touch on the “Chehalis River Basin Flood Control Zone District”
  - #3 -- Proposed Flow-through Dam for Flood Control
- Allow time for discussion.



Office of  
Chehalis Basin

Chehalis Basin  
Board

<https://chehalisbasinstrategy.com/>

# Chehalis River Basin Flood Authority

- **Formed** in 2008
- **Focused on** flood hazard mitigation
- **Decision-making**
  - informed by science
  - protective of Basin residents/communities
  - environmentally appropriate
- **Jurisdictions** represented (see [inter-local agreement](#))
  - Grays Harbor County (2008)
    - City of Aberdeen (2008)
    - City of Cosmopolis (2011)
    - City of Hoquiam (2017)
    - City of Montesano (2008)
    - City of Oakville (2008)
  - Lewis County (2008)
    - City of Centralia (2008)
    - City of Chehalis (2008)
    - City of Napavine (2011)
    - Town of Pe Ell (2008)



- Thurston County (2008)
  - Town of Bucoda (2008)

***Help local communities identify, develop, implement  
local flood hazard reduction solutions.***

# Local Projects (#1)

1. Reduce flood damage.
2. Protect people, property, infrastructure.
3. Improve readiness, response, resiliency.
  - *Drinking Water* (Boistfort, Bucoda).
  - *Wastewater* (Montesano, Pe Ell).
  - *Emergency Response* (Grays Harbor County, Chehalis-Centralia Airport).
  - *Regional Economic Infrastructure* (Montesano, Port of Chehalis, Port of Grays Harbor).
  - *Community Protection* (Aberdeen, Adna, Bucoda, Centralia, Chehalis, Chehalis Tribe, Hoquiam, Oakville).
  - *Flood Warning* (Basin-wide).

## State Capital Budget:

2012-13 -- \$ 5.0M

2013-15 -- \$10.7M

2015-17 -- \$15.7M

2017-19 -- \$ 9.6M

2019-21 -- \$ 6.3M

2021-23 -- \$ 4.1M

2023-25 -- \$ 3.6M

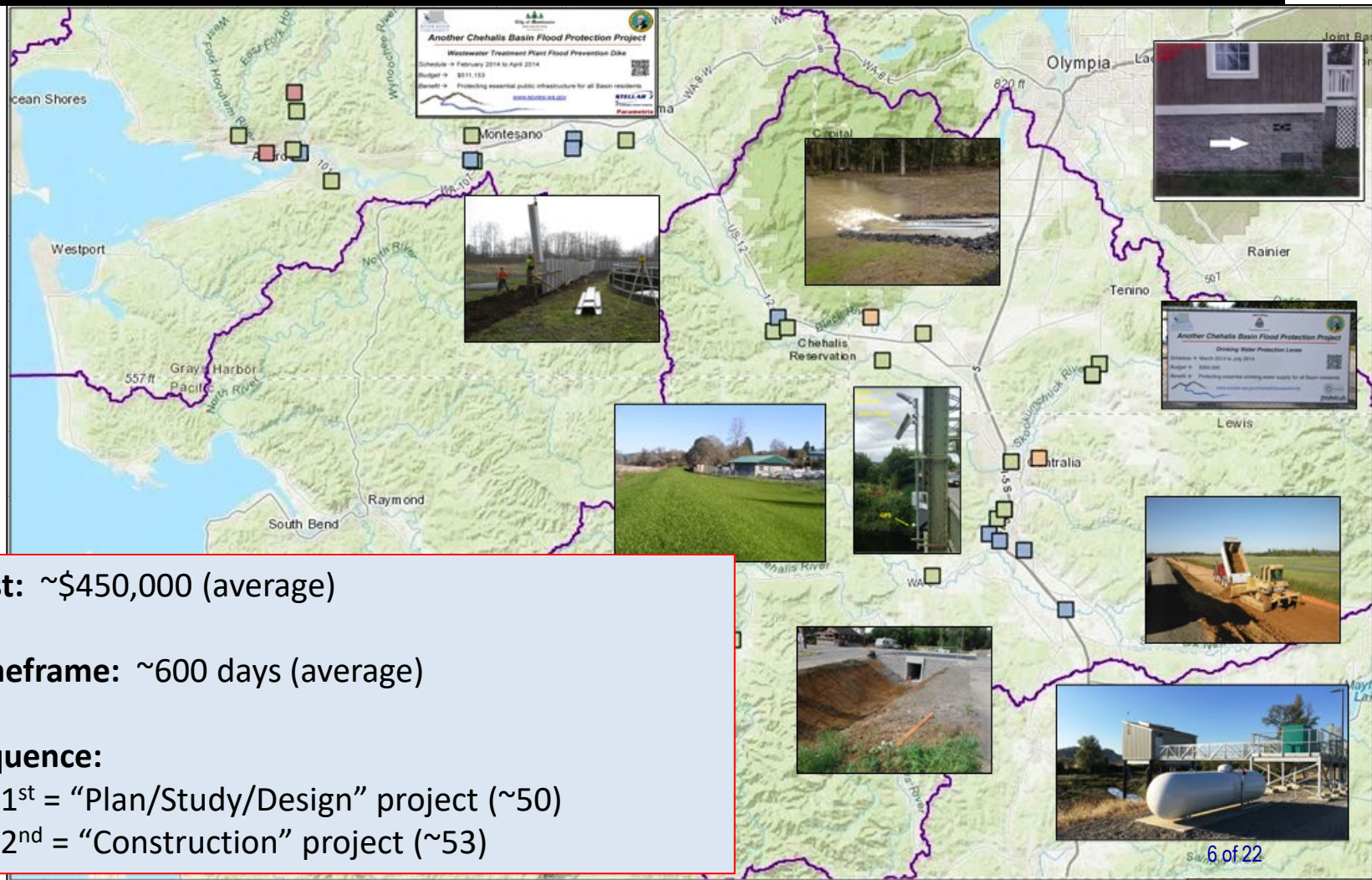
**\$55.0M**

**2025-27 -- \$ 3.0M**

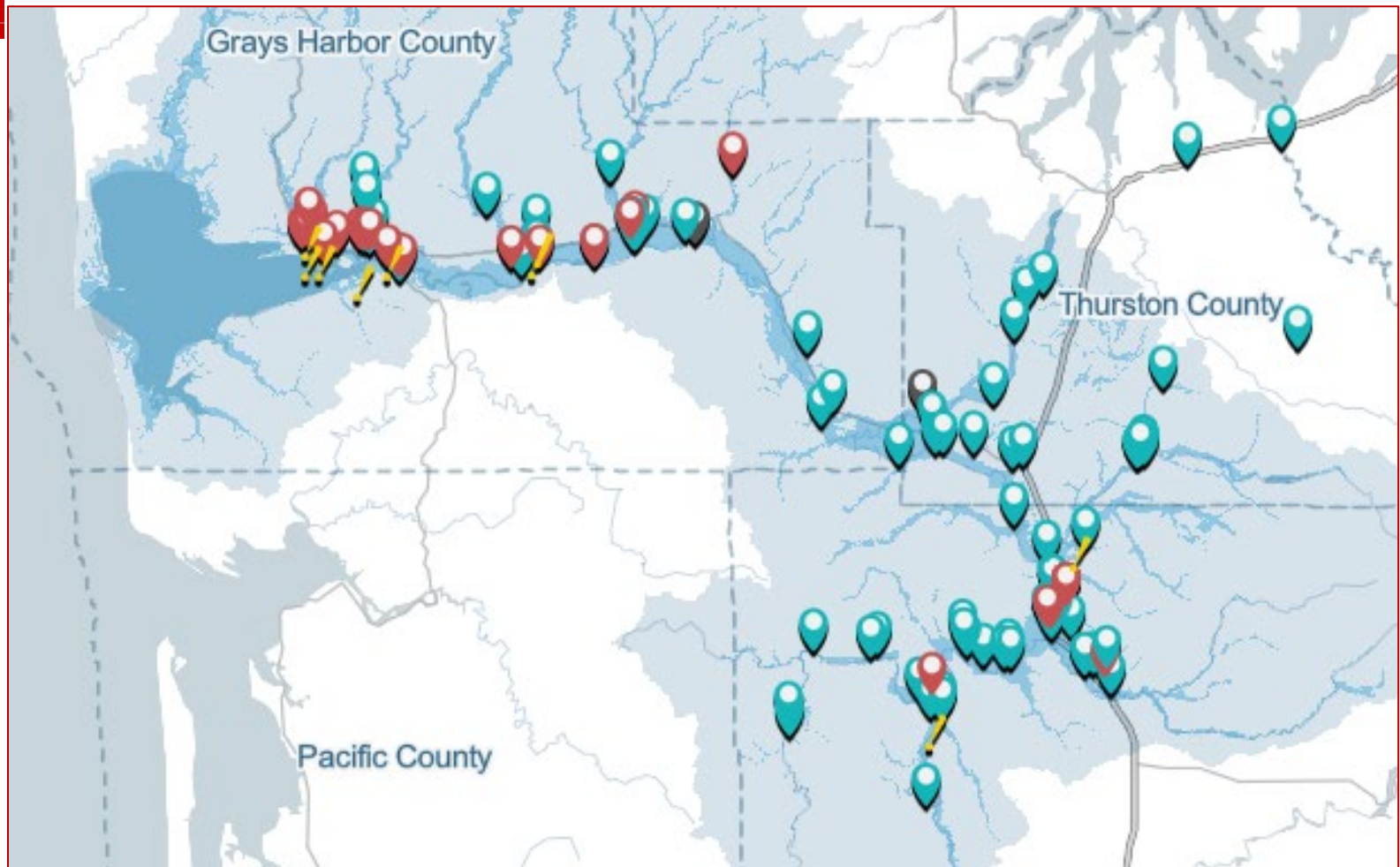
**to**

**\$13.0M**

# Local Projects (100+ Projects Completed 2012-23)

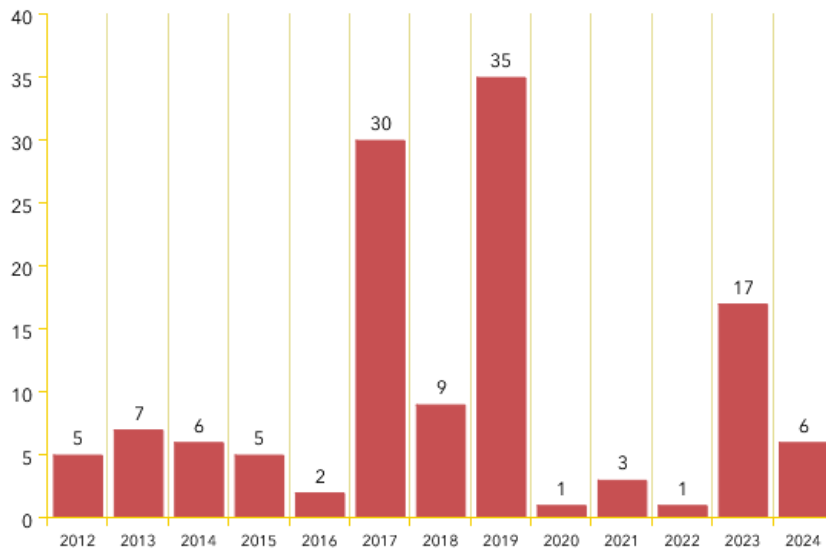


# Local Projects (100+ Projects Completed 2012-23)

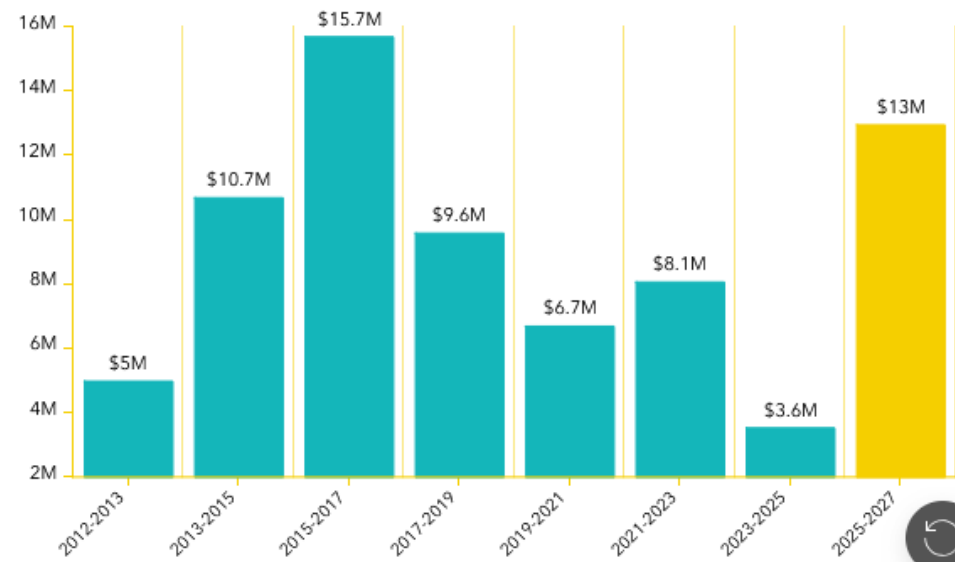


# Local Projects (100+ Projects Completed 2012-23)

Projects Completed by Year

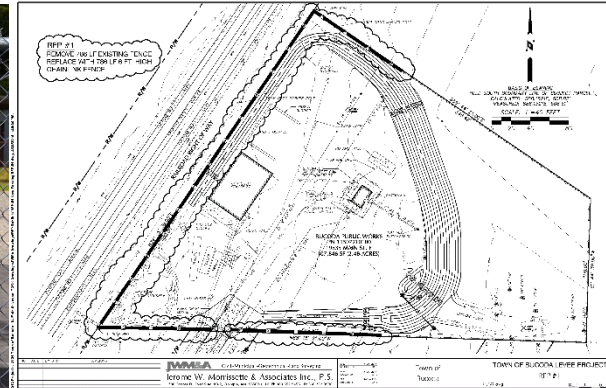


Funding by Biennium (Two-Year Periods)



# Local Projects (Bucoda)

## COMPLETED 2014 Drinking Water Protection Levee – Read [more](#).



## ON-HOLD 2016 Main Street Regrade Project – Read [more](#) (and [here](#)).

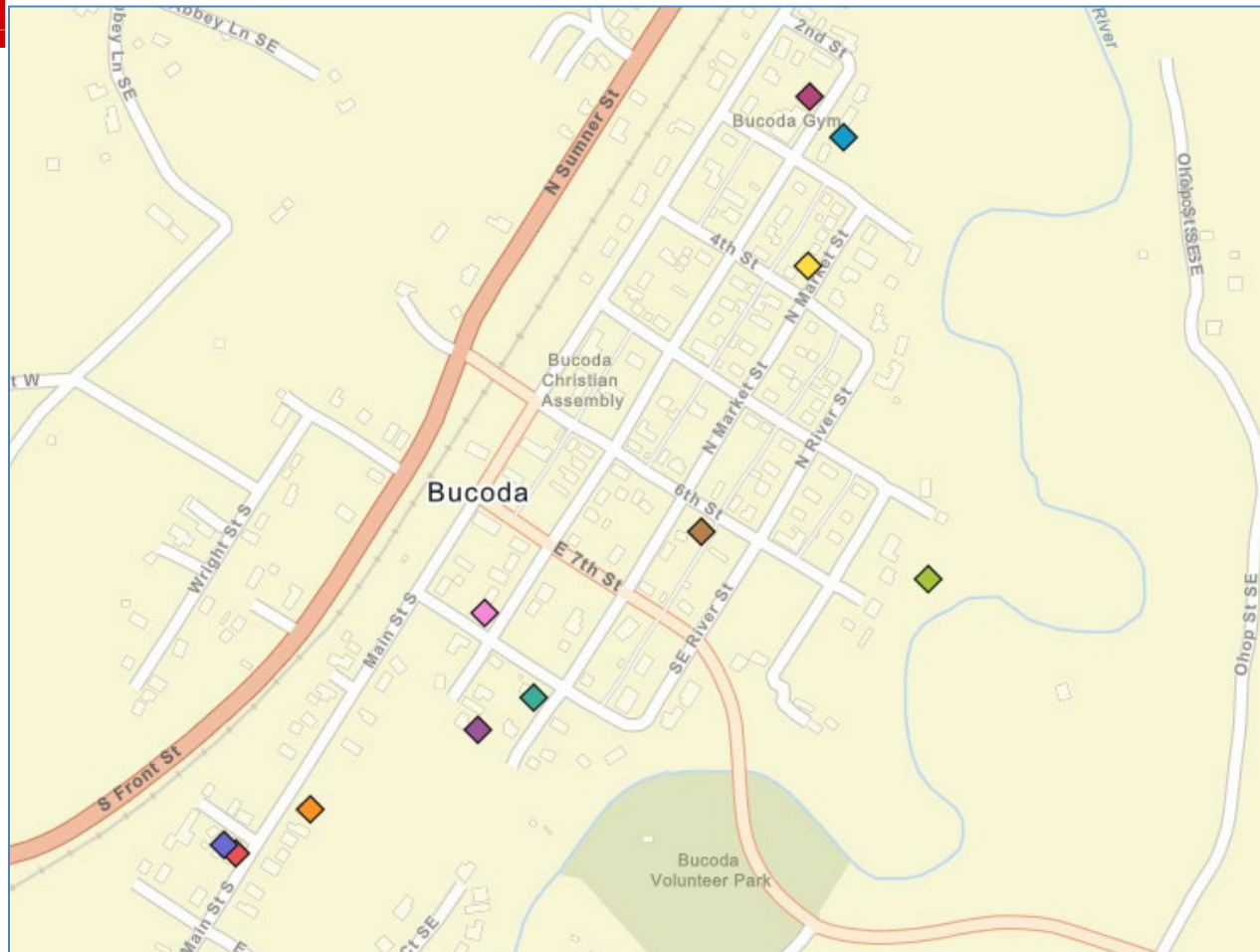


## COMPLETED 2016 Foundation Flood Opening Pilot (11 properties) – Read [more](#) (and [here](#))

U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL BUREAU OF INVESTIGATION Flood Insurance Information		ELEVATION CERTIFICATE		OMB No. 1560-0008 Expiration Date: July 31, 2015
SECTION A - PROPERTY INFORMATION		FEDERAL INSURANCE COVERAGE ACT		
1. Building Owner's Name: <b>Colleen M. Tee</b>		2. Policy Number:		
3. Address: <b>11111 1st St, Bucoda, WA 98563</b>		4. City: <b>Bucoda</b>		
5. State: <b>WA</b>		6. ZIP Code: <b>98563</b>		
7. Tax Parcel Number: <b>6100000000</b>		8. Flood Insurance Policy Number: <b>1560-0008</b>		
9. Building Type: <b>Single-Family Detached</b>		10. Building Use: <b>Residential</b>		
11. Building Construction: <b>4.0</b>		12. Building Age: <b>15-20</b>		
13. Building Height: <b>10.0</b>		14. Building Area: <b>1000</b>		
15. Building Foundation: <b>1.0</b>		16. Building Footing: <b>1.0</b>		
17. Building Elevation: <b>10.0</b>		18. Building Elevation: <b>10.0</b>		
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99. Building Elevation: <b>10.0</b>		100. Building Elevation: <b>10.0</b>		



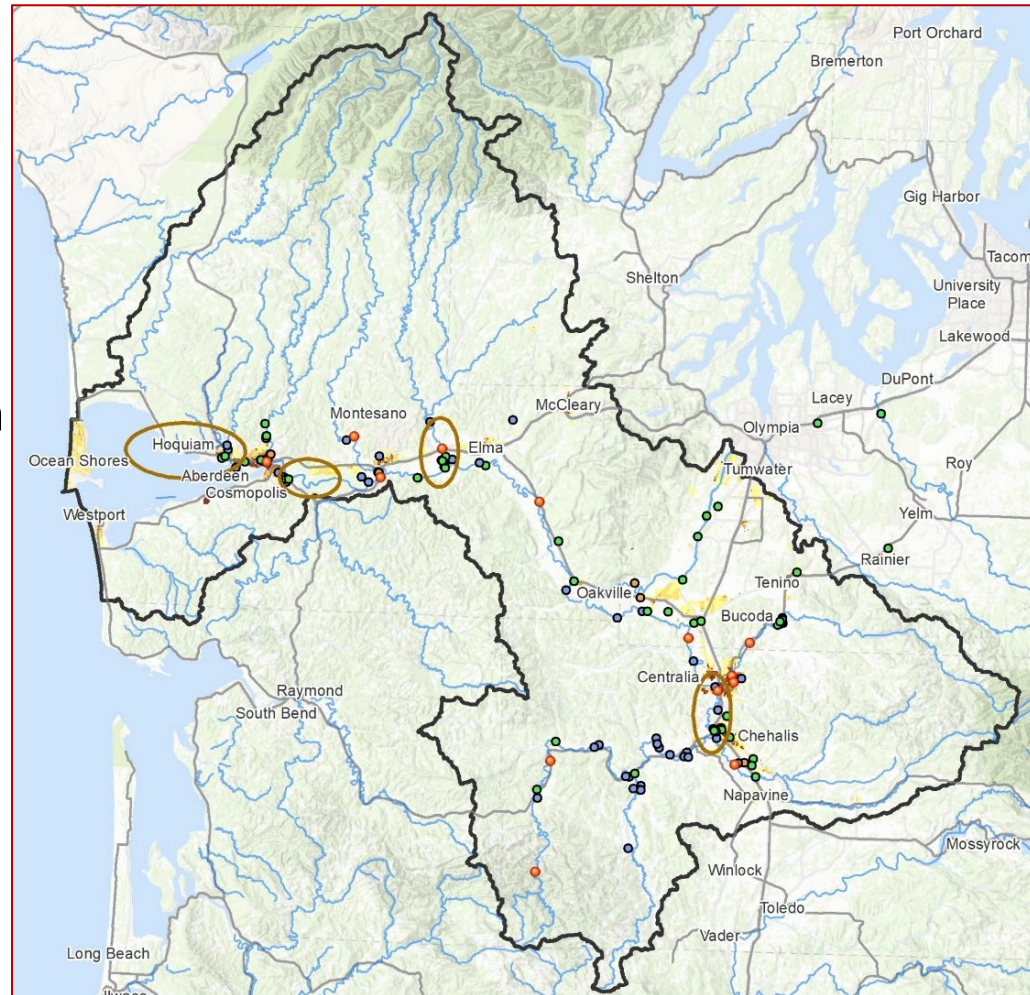
# Local Projects (Bucoda)



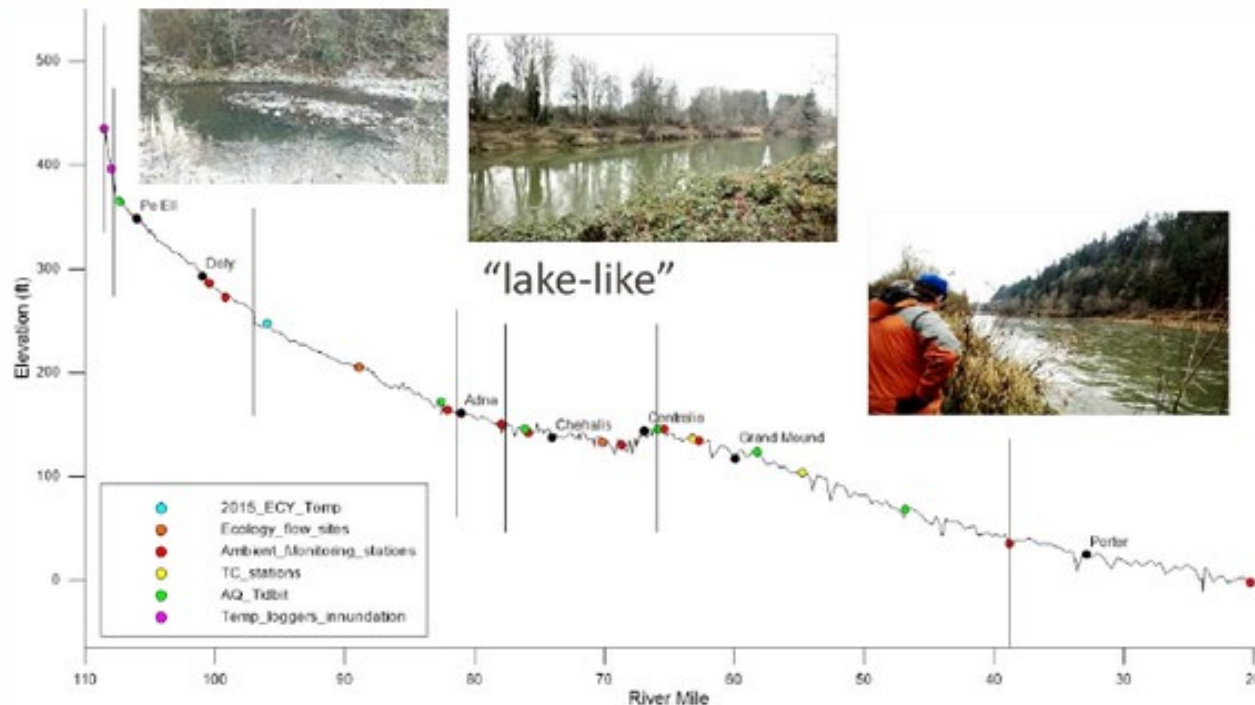
**2016 Properties -- Foundation Flood Openings Pilot**

# Local Projects (Moving to Geographically-Based)

Identify future local projects through geographically-based, coordinated local investment planning.



# Local Projects (Moving to Geographically-Based)



## Basin Geography

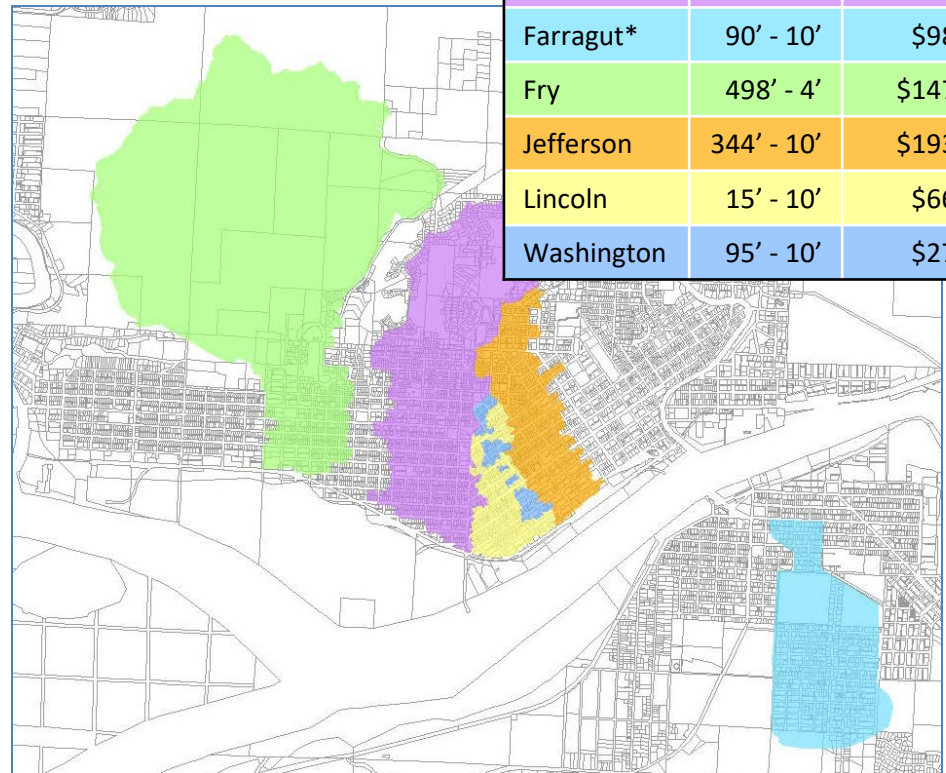
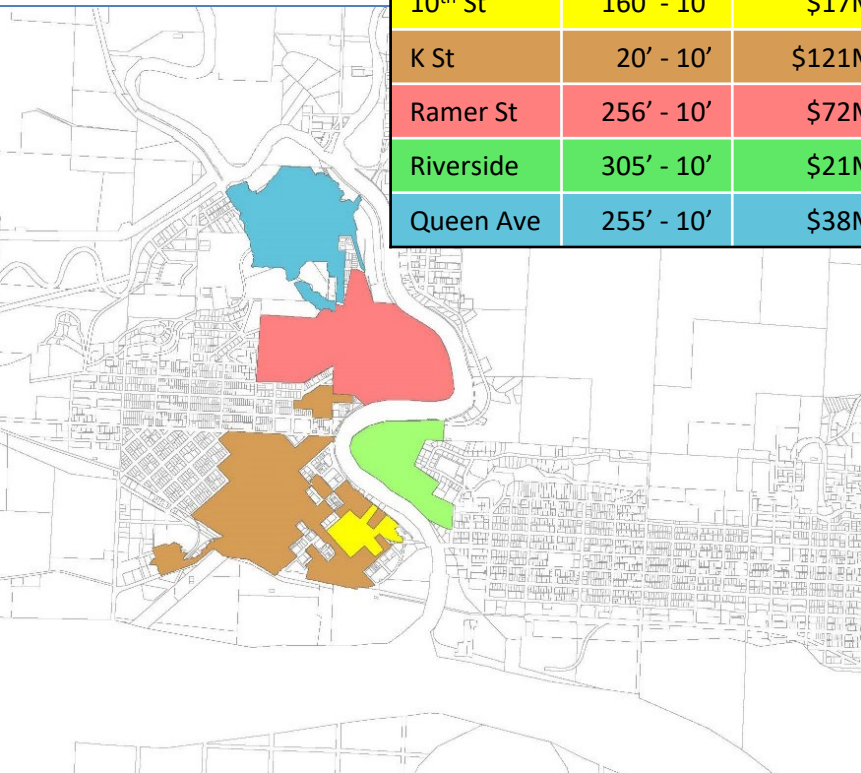
- ☐ Upper = Steep, narrow, fast flowing.
- ☐ Middle = Flat, “lake like”, slow to drain.
- ☒ Lower = Flat, coastal, difficult to drain.

Shah, Mohammad. (2021). inland water-dynamics and ecology. [10.5772/intechopen.87463](https://doi.org/10.5772/intechopen.87463).

# Local Projects (Moving to Geographically-Based)

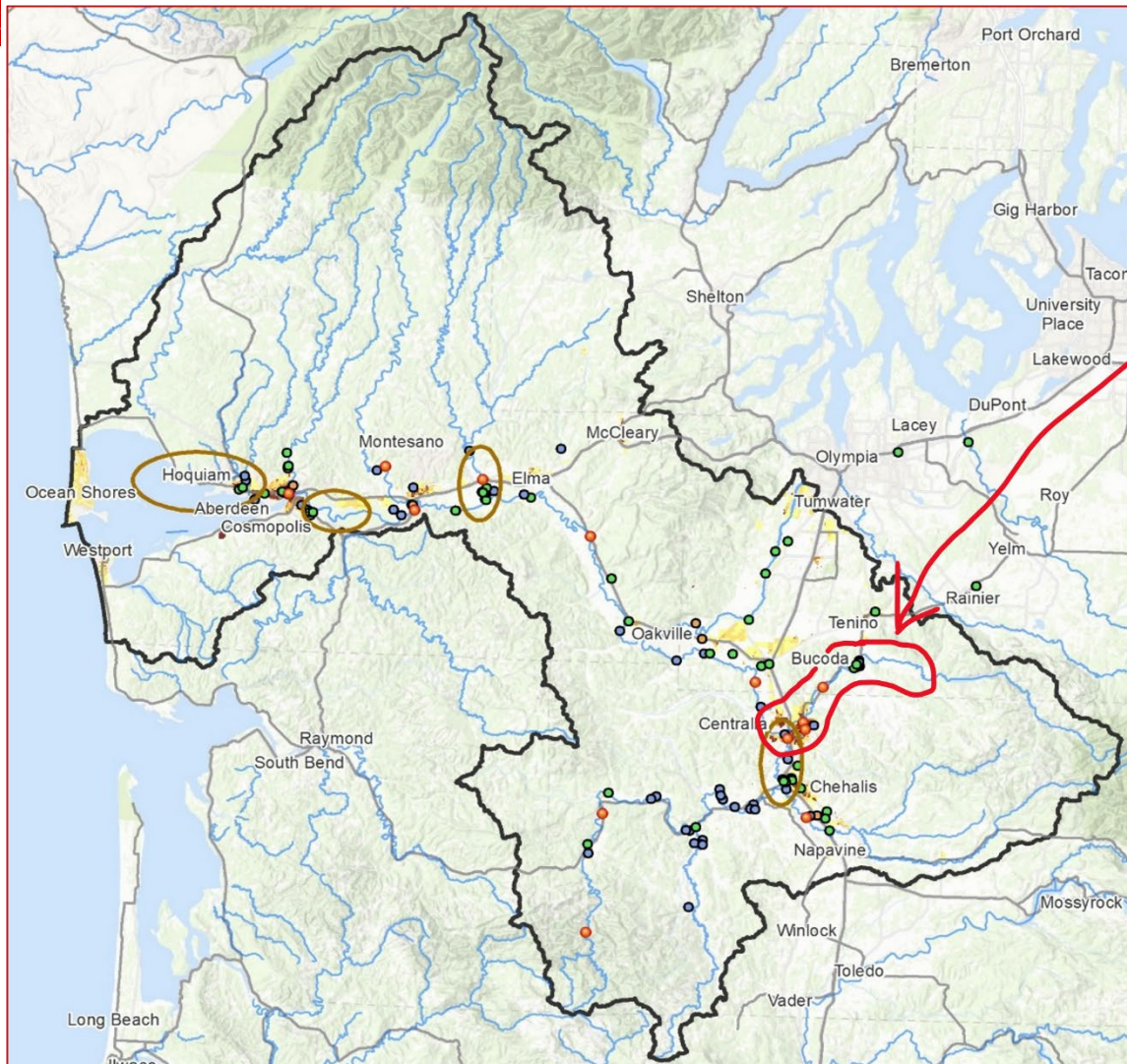
Sub-Basin	Elevation	Assessed
10 <sup>th</sup> St	160' - 10'	\$17M
K St	20' - 10'	\$121M
Ramer St	256' - 10'	\$72M
Riverside	305' - 10'	\$21M
Queen Ave	255' - 10'	\$38M

Sub-Basin	Elevation	Assessed
Division	345' - 10'	\$300M
Farragut*	90' - 10'	\$98M
Fry	498' - 4'	\$147M
Jefferson	344' - 10'	\$193M
Lincoln	15' - 10'	\$66M
Washington	95' - 10'	\$27M



11 urbanized low elevation sub-basins + Adverse meteorologic conditions -- high tides, heavy rain, bankfull rivers, saturated soils, SW winds = **Very difficult to drain!**  
(\$1.1B assessed value at risk)

# Local Projects (Moving to Geographically-Based)



Future Geographic Investment Planning - Skookumchuck.

- ✓ New gage ([here](#)).
- ✓ Future of Skookumchuck dam ([here](#)).
- ✓ Bucoda flooding.
- ✓ Centralia flooding.

# Flood Warning System (#2)

- ✓ **Developed** with State Capital Budget \$.
- ✓ **Maintained** with local \$.

[www.chehalisriverflood.com](http://www.chehalisriverflood.com)

https://chehalis.rain.com

67%

Home Map Sites News Dashboards Bookmarks

### The Chehalis River Basin Flood Warning System

Be Aware; Be Prepared: Flood Season is here!

Sign Up Now to receive 2023-24 email high water alerts - The Chehalis Basin Flood Warning System sends automatic email alerts about rising floodwaters.

To sign up for email alerts, click the icon below:

Questions?

Contact Cheryl Vincent at [cvincent@westconsultants.com](mailto:cvincent@westconsultants.com) and Jennifer McAdoo at [jennifer.mcadoo@icf.com](mailto:jennifer.mcadoo@icf.com).

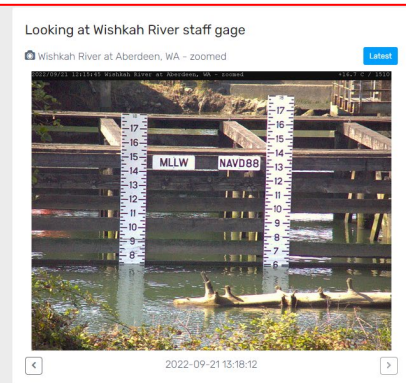
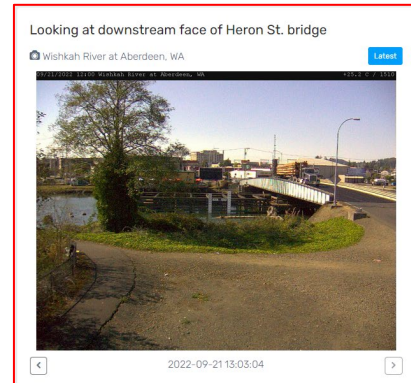
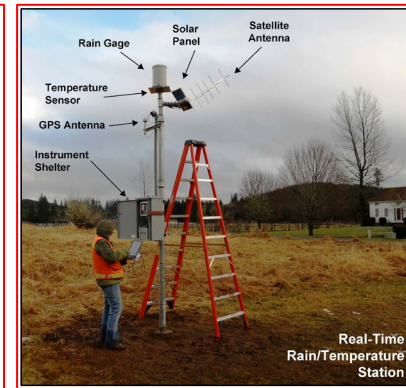
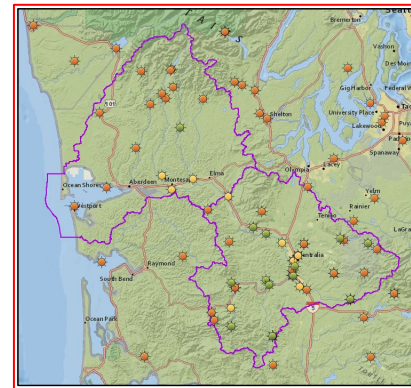
Para leer esta información en español, haga clic aquí

Click here on the image above to visit our Interactive ArcGIS Dashboard!

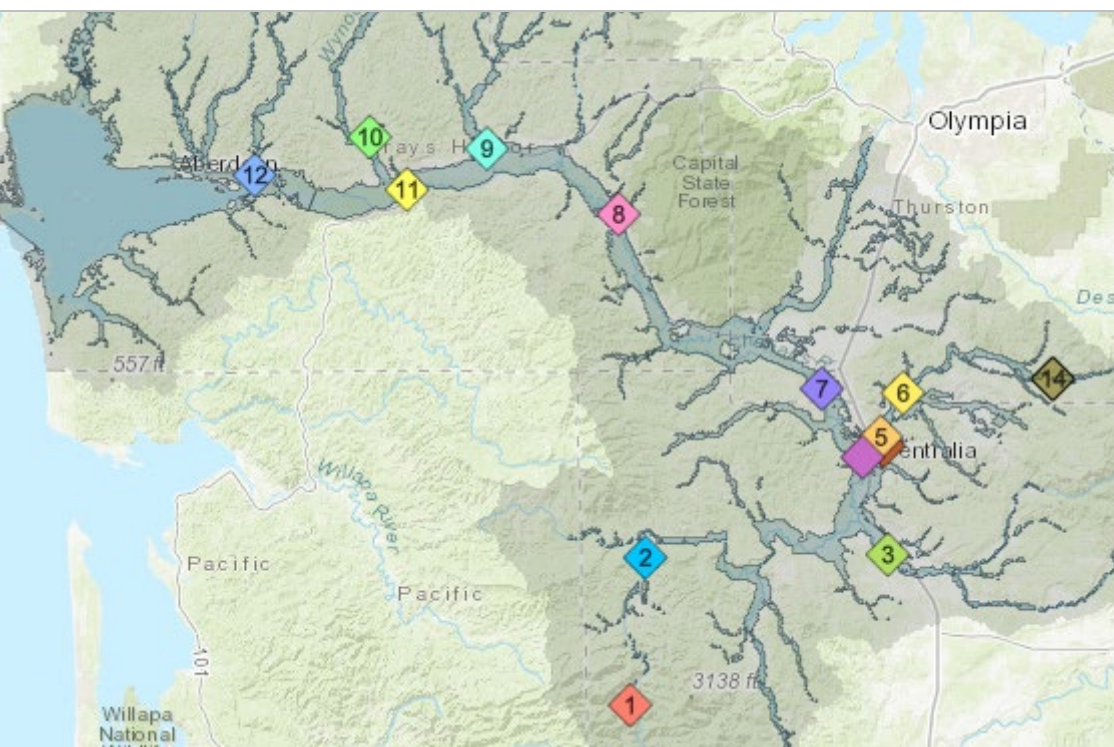
Rainfall Summary River Summary

#### Chehalis River Basin Forecasting Tools

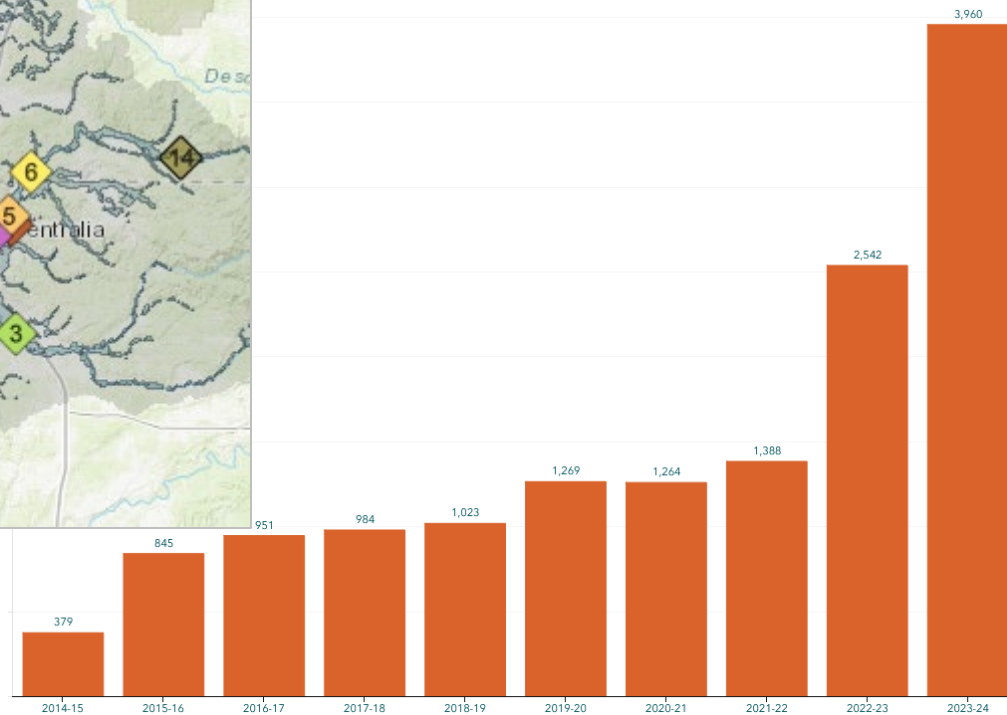
- Chehalis River (and tributaries) Dashboard
- Weather Forecast
- Rainfall Forecast
- Radar Rainfall
- River Forecast
- Flood Maps
- Atmospheric Rivers
- King Tides Calendar
- Seasonal Precipitation and Temperature Forecasts



# Flood Warning System (Alert Sign-Ups)



Sign-up for email high water alerts [here](#).



# Proposed Flow-through Dam for Flood Control (#3)

## ABOUT THE DISTRICT

The Chehalis River Basin Flood Control Zone District works to make the basin a safer place for communities impacted by flooding. The District's goals are to:

✓ Reduce the risk associated with flooding and preserve life

✓ Prevent damage to property

✓ Protect, preserve, and conserve natural resources

The District is proposing a flow-through dam for flood control as a flood risk solution that serves the needs of fish, preserves the riverine ecosystem, and protects communities.

📅 Event Calendar

**CHEHALIS  
RIVER BASIN  
FLOOD CONTROL  
ZONE DISTRICT**

[www.chehalisriverbasinfczd.com](http://www.chehalisriverbasinfczd.com)

## Upcoming Events

📅 **OCTOBER 10**

**Chehalis River Basin  
FCZD Advisory  
Committee meeting**

**Oct 10, 2024, 8:00 AM –  
9:00 AM**

Commissioners' Hearing  
Room 351 NW North St.  
Chehalis, WA 98532

📅 **OCTOBER 15**

**Chehalis River Basin  
FCZD Supervisor  
meeting**

**Oct 15, 2024, 11:00 AM –  
12:00 PM**

Commissioners' Hearing  
Room 351 NW North St.  
Chehalis, WA 98532

📅 **NOVEMBER 14**

**Chehalis River Basin  
FCZD Advisory  
Committee meeting**

**Nov 14, 2024, 8:00 AM –  
9:00 AM**

Commissioners' Hearing  
Room 351 NW North St.  
Chehalis, WA 98532

# Proposed Flow-Through Dam for Flood Control (#3)

1. Move through unobstructed
  - ✓ Water
  - ✓ Fish
  - ✓ Sediment
2. Delivers top-to-bottom benefit, Pe Ell to Cosmopolis.
3. See recent presentation [here](#).



# Chehalis Basin Strategy



Office of Chehalis  
Basin

Chehalis Basin  
Board

<https://chehalisbasinstrategy.com/>

## Chehalis Basin Board

Community leaders, Chehalis and  
Quinault tribal representatives,  
local and state government liaisons

appoints 3  
member



## Office of Chehalis Basin

Small team within the WA  
Department of Ecology

## "Network of Partners"

Organizations and local  
entities who turn ideas into  
shovel-ready reality

# Chehalis Basin Strategy (Network of Partners)



# Today vs 2007

**Today, we are substantially more aware, better prepared for catastrophic flooding than ever before.**

- ✓ We have a state-of-the art flood warning system.
- ✓ We've completed many cost-efficient local projects and habitat projects.
- ✓ We're serving people, local governments, emergency responders, agriculture, fish, and habitat alike
- ✓ We have a governance, administrative, and funding structure that's delivering results, and is committed to a balanced basin-wide flood and fish solution (see Local Resolution Library).



<https://chehalisbasinstrategy.com/office-of-chehalis-basin/>

# Key Contacts

**Vickie Raines, *Grays Harbor County Representative***

*Chair*, Chehalis River Basin Flood Authority

*Chair*, Chehalis Basin Board

360/590-4100

[vraines@graysharbor.us](mailto:vraines@graysharbor.us)

**Edna Fund, *Lewis County Representative***

*Vice-Chair*, Chehalis River Basin Flood Authority

360/269-7515

[dutch@localaccess.com](mailto:dutch@localaccess.com)

**Scott Boettcher**

*Staff*, Chehalis River Basin Flood Authority

360/480-6600

[scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)